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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## *Office Action Summary*	**Application No.** 09/822,300	**Applicant(s)** MUENZEL, GEORG
	Examiner Tuan A. Vu	**Art Unit** 2193

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10/30-31/07*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-53* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-53* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____is/ are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) ☐ Notice of Informal Patent Application
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.	6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to the Applicant's responses filed 10/30/07 and 10/31/07.

As indicated in Applicant's response, no claims have been amended, and claim 53 added. Claims 1-53 are pending in the office action.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 36-38, 53 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

> The Federal Circuit has recently applied the practical application test in determining whether the claimed subject matter is statutory under 35 U.S.C. § 101. The practical application test requires that a " useful, concrete, and tangible result" be accomplished. An "abstract idea" when practically applied is eligible for a patent. As a consequence, an invention, which is eligible for patenting under 35 U.S.C. § 101, is in the "useful arts" when it is a machine, manufacture, process or composition of matter, which produces a concrete, tangible, and useful result. The test for practical application is thus to determine whether the claimed invention produces a "useful, concrete and tangible result".

The current focus of the Patent Office in regard to statutory inventions under 35 U.S.C. § 101 for method claims and claims that recite a judicial exception (software) is that the claimed invention recite a practical application. Practical application can be provided by a physical transformation or a useful, concrete and tangible result. The following link on the World Wide Web is the United States Patent And Trademark Office (USPTO) reference in terms of guidelines on a proper analysis on 35 U.S.C. §101 rejection.

<http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf>

Specifically, claim 36 recites ‘computer executable instructions’ for causing a programmable logic controller to control an industrial process via execution of an automation computer program'. The descriptive portion related to how such computer program is developed is recited as ‘via a markup language version’, and 'created using a graphical programming language' each of which provided as a context with no further action details; hence would not be given weight enabling one to construe how the logic controller controls an industrial process; that is, such broad language about the markup and the graphical language amounting at best to preamble type of context, otherwise viewed as consisted of ‘non-functional descriptive material’ (see USC 101 Guidelines, AnnexIV, pg. 54) and devoid of any relevance or import (emphasis added to the fact that this is **irrelevant** to the control by code execution) with respect to the end result coming from the ‘control’ of an industrial process of the onset: such ‘non-functional descriptive material’ does not constitute statutory subject matter of any weight. The claim as whole, amounts to code instructions enabling via execution of a program a PLC to control a process; and this ‘control’ action limitation is considered pre-emptive upon any know arts or industrial process to control industrial automation, as discussed below. Secondly, code being executed to ‘control’ (via a PLC) without further details in terms of its implementation, amounts to an ‘intended use’ without patentable merits; i.e. intended use not constituting a statutory subject matter. Further, the mere reciting of execution of code for an intended use (industrial automation control) does not provide data transformation required for one skill in the art to perceive a process by which a result (e.g. result from action by the PLC) has been yielded as *concrete, tangible and useful* in the pertinent application domain (industrial automation control) as required by USC 101 as set forth in the Guidelines (pg. 19-22). By claiming a mere ‘to control' an industrial process, when the rest of the claim is but mere non-functional descriptive material, the claim language triggers the analysis as to whether the claim is leading towards a impermissible pre-emption of known art practices. That is, the Inventor is perceived as seeking patentability in just executing code TO CONTROL, which 'foreclose from others' the use of this execution to control (an automation process) as this is set forth in the 101 Guidelines (see V. *No Preemption Permitted*, pg. 35). For all the above reasons, the claim amounts to mere listing of an intended use, a preemptive attempt to preclude any related methodology to 'CONTROL a industrial automation', absent any details to yield result (concrete, tangible, useful) from data transformation with actions step specifics, i.e. not a practical application but a mere abstract idea. The claim is rejected for leading to a non-statutory subject matter; nor does it truly qualify as any of the statutory categories for its being a preemptive teaching, and an intended use (or abstract idea in the term 'to control" supported by mere Non-Functional Descriptive material) described but with lack of data transformation geared toward materializing that intended use (to control automation).

Claim 37-38 are also rejected for not remedying to the above.

Claim 53 recites a method for causing a PLC to control an industrial process via a computer program. The method is not further described in terms of how the execution effectuating such control has been implemented in order to achieve PLC-control effects. The rest of the claim (markup language, graphical programming language, set of markup tags, defined ... a graphical language) amounts to non-functional descriptive material (i.e. not related to the program execution of the onset) about how the program has been developed prior to it being an executable, otherwise viewed as **irrelevant** to PLC-control execution; that is, claim 53 is not given statutory weight for this NON-FUNCTIONAL DESCRIPTIVE material part. Based on the analysis as set forth against claim 51, claim 53 does not fully qualify as a statutory category; and is also rejected as pre-emption type of infringement, and for representing but an abstract idea via a mere intended use, thus unable to achieve a real-world application practical result(no data transformation from said execution to yield tangible, concrete control result).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 51-53 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 51 (along with claim 52) is rejected because of the indefinite teaching exhibited in the newly added phrase '*a set of markup language tags associated with the markup language version of the industrial automation computer program defined for the* ***graphical programming language****, the set of markup language* ***tags one*** *of a plurality of sets of markup language tags, each set of markup language tags of the plurality of sets of markup language tags defined for a corresponding* ***graphical language*** *of a plurality of graphical languages used in industrial automation*'. The phrase 'set of markup language tags one of a plurality of sets ... of tags' appears grammatically idiomatic and technically nonsensical. The phrase recited as 'version of the automation computer program defined for the graphical programming language' **in conjunction with** that of 'each set of markup ... tags ... defined for a corresponding graphical language of a plurality of graphical languages' does not appear to have inter-structural

soundness, nor does it entail credible and cohesive relationship (*) among the elements. It is unclear whether a set among the plurality of markup tags (i) represents version of a computer program defined for a graphical **programming** language, or (ii) is defined for a corresponding **graphical language** used in industrial automation, or (iii) both of (i) and (ii); because there is clear difference between computer program for a 'graphical programming language' (e.g. Handel-C, XSLT, ActiveX, Java, Javascript, Motif, MSVisual C++, Ansi C) and mere 'graphical language' (e.g. declarative programming; or ladder logic, UML, Petri Net, Matlab/LabView, FrontPage, CorelDraw). One of ordinary skill in the art would not be apprised on the invention **metes and bounds** in terms of meaningful and consistent relationship between the elements recited. Based on the lack of cohesive relationship, which is also perceived as incongruous amalgamation of fragment of seemingly disjoint teachings, one would not be able to construe a minimal cause-to-effect rationale with concrete functionality regarding the role played by the plurality of tags recited within the onset of 'receiving'. Besides the meaningless phraseology as identified in (*), one of ordinary would not be able to construe the extent to which the set of markup tag can support computer program defined for a programming language, or to support a graphical language (for automation) order to make use of the invention as described. The above phraseology is treated as though the plurality of tags would each represent a graphical language of some type, among more language types or families.

7. Claim 53 is rejected because of the indefinite language exhibited in the newly added phrase '*a set of markup language tags associated with the markup language version of the industrial automation computer program defined for the* ***graphical programming language****, the set of markup language* ***tags one*** *of a plurality of sets of markup language tags, each set of*

markup language tags of the plurality of sets of markup language tags defined for a corresponding ***graphical language of a plurality of graphical languages*** *used in industrial automation*'; and like the verbiage being identified in the Claim 51, this hard-to-construe limitation cannot enable one of ordinary skill in the art to be apprised on how the markup tags or their associated tag content contribute in defining process or structures for any automation program (declarative graphical or source code programmatic?) designated to control functionality of a industrial automated process.

It is also recommended that the Specifications be provided with corrective language adjustment (emphasis added) for it contains the very same textual language as identified above.

8. Claims 36-38, 53 are rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention. Evidence that claims 36, 53 fail(s) to correspond in scope with that which applicant(s) regard as the invention can be found in the Specifications (see Abstract, Drawings) and Applicant's remarks filed 10/30/07 (see Appl. Rmrks pg. 25: 'converting the internal representation to a markup language version of …'. In said papers, applicant has stated the crux of the invention founded on **converting** a automation program in terms of markup tags, and this statement indicates that the invention is different from what is defined in the claim(s) because the claimed invention (in claims 36 and 53) is clearly about **execution** of a method **to control** an automation process via a PLC, NOT about a development tool-based conversion process by which a developer creates a XML version of a industrial automation programming language. Since developing a markup version is perceived in the entirety of the Specifications, it is NOT reasonable to construe the invention (as claimed above) in terms of putting a PLC into an execution endeavor to control a automation process,

absent any description in the claim and in the Disclosure in terms of how this PLC performs. The claimed PLC executing a control program is not viewed as putting forth what the inventor really describes in his Disclosure; and this execution (to control) limitation for belonging to another scope outside of the Invention will be treated with very little patentable merit.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 1-8, 10-12, 14-26, 28-30, 32-43, 51-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dole, USPN: 6,634,008, in view of the admitted prior art (hereinafter APA--see Background of Invention, pg. 1-2 of Specifications)

As per claim 1, Dole discloses a method for representing industrial automation computer program code created using a graphical programming language (e.g. col. 8, lines 22-32), the method comprising:

identifying an internal representation of an industrial automation computer program (e.g. *files and libraries, file defining methodologies… executable methodologies* - col. 7, lines 14-49; *Verilog file* – col. 8, lines 25-32; col. 8, line 63 to col. 9, line 19; col. 10, lines 32-56; col. 13, line 43 to col. 14, line 15; *netlist* – col. 14, lines 42-47; step *503* – Fig. 8; Fig. 11-12;*job steps, chain job* – col. 16, lines 5-9; col. 16, lines 53-55 – Note: all files generated from the EDA tool reads on internal representation of the automation program --see Dole: *electronic design automation* *tools* – Abstract), the internal representation created via the graphical programming language (e.g. col. 8, lines 22-32; col. 5, lines 11-21; step 503 – Fig. 8) ; and

converting the internal representation to a markup language version of the code industrial automation computer program (e.g. HTML, CGI - col. 7, lines 26-42; Fig 10; *more desirable to use XML* -col. 16, lines 10-47; Fig. 13).

Dole does not explicitly disclose that the industrial automation program is to control a programmable logic controller (PLC). At the time the invention was made, embedding complex system in a single chip – IC - such as endeavored by Dole (see Dole: *system-on-chip* - BACKGROUND) such that complex controlling micro chip devices, e.g. integrated circuits or microcontroller being a field for developers to develop automation control code to test their functions was a known concept. Dole methodology to design complex controller chip wherein design is based on graphical selection regarding chip related functions or architecture (see *place and route* -Fig. 9; tool selection -Fig. 10; *verilog* - Fig. 11; *chip home page* – col. 15, lines 40-62) is thus further evidenced by APA; that is, APA discloses that graphical design by engineers can be supported by graphical programming languages that enable specify control logic of programmable logic controller (PLC – see Specifications , pg. 1). APA is teaching the same line of industrial type of design and/or circuits building/controlling as Dole -- that is, in view of the web based and graphic-based tool/methodologies by Dole to. The graphical programming concept is evidenced in Dole's developing of industrial type of design via using graphical tool and methodologies, wherein complex chip(IC) logic or controller functionality can be targeted for being modeled and graphically designed (see Dole: Fig. 28; *Tool 1405* Fig. 5; *Netlist* EDA Tool – Fig. 6; *Flow control tool 315* – Fig. 4 -- Note: graphically assembling of blocks and execution of the control flow of components in a circuit design reads on graphical programming). Based on the fact that one such microcontroller IC type design or complex controller device being such target can be a PLC as set forth by APA from above, it would have been obvious for one of ordinary skill in the art at the time the invention was made to apply circuit synthesis tool, control data communication and web markup conversion as taught by Dole so that the target to be designed would be a control logic of a integrated chip or single controller having control functionality of a PLC such as taught by APA. One would be motivated to do so because the internet based control applied to industrial design and control as endeavor by both Dole using this framework to implement industrial design, programming and testing of a PLC as by APA would enable hardware modeling and design such IC controller as perceived in Dole to put into use the very usefulness of a PLC using the possibilities from a computer technology to implement the graphical programming as set forth above (see APA, pg. 1) and in Dole from above.

As per claims 2-3, Dole discloses storage of the markup language version of the industrial automation computer program to be stored in computer storage device (e.g. *XML files* – col. 16, line 21-67) for transmission and being displayed for editing discloses inherent storage for transport across the internet (e.g. Fig. 5).

As per claims 4 and 5, Dole discloses converting the markup-formatted code of the industrial automation computer program to the internal representation in computer memory as a corresponding graphical programming language version the industrial automation computer program (e.g. step *527* – Fig. 13; Fig. 17-23; *Netlist* EDA Tool – Fig. 6; *Flow control tool 315* – Fig. 4 – Note: executing markup file via file decompression to restore *DAG or chip/block or*

Netlist based synthesis files defining a circuitry job chain reads on converting back into corresponding graphical programming language).

As per claims 6-7, Dole discloses Fig. 5 and an XML version (e.g. col. 16, line 10-67).

As per claims 8 and 10-11, Dole discloses *step-by-step flows* and *schematic* for a circuit design being documented (e.g. col. 5, lines 11-16; col. 12, lines 5-48); hence has disclosed a graphical language comprising flowchart language and sequential flow chart (*DAG* - col. 16, lines 52-55; col. 17, lines 22-27; Fig. 23) and block diagram language (e.g. step 405-407 – Fig. 9; col. 12, lines 42-55; Fig. 8, Fig. 19, 28 – Note: *model* and *physical layout* of IC in a circuit as well as UI manipulating of block flow – see col. 5, lines 11-32 - reads on block diagram graphical type of language).

As per claims 12 and 14-15, Dole discloses modeling (e.g. *synthesis tool, behavioral model, schematic* - col. 12, lines 5-48; col. 15, lines 20-47; *Flow/steps 1119* -Fig. 10; Fig. 23); hence has disclosed graphical language comprising a flowchart, block diagram, and function diagram (re claims 8, 10-11) being converted into markup language and decompressed therefrom (re claims 4-5).

As per claim 16, Dole discloses a tool with editor command (e.g. col. 13, lines 22-44; Fig. 4, 10, 12).

As per claim 17, Dole discloses executing circuit of design block from the XML language in corresponding graphical language version of the industrial automation computer program (e.g. step *527* – Fig. 13; Fig. 17-23; *Netlist* EDA Tool – Fig. 6; *Flow control tool 315* – Fig. 4 – refer to rationale of claim 5).

As per claim 18, see Dole's browser use (Fig. 5).

As per claim 19, this is a computer product with computer-readable medium (see Dole: col. 28, lines 6-8) for performing the same steps limitations recited respectively in claim 1; hence is rejected with the corresponding rejections as set forth in claim 1, including the rationale to address the PLC controlling function of industrial automation computer program limitation.

As per claims 20-23, refer to the rejections of claims 2, 4, 3, 5, respectively.

As per claims 25-26, and 28, refer to claims 7-8, and 10, respectively.

As per claims 24, 29 and 33, refer to claims 6 (for browser) and 11(for sequential chart), respectively.

As per claims 30 and 32, refer to claims 12, 15, respectively.

As per claims 34-35, refer to claims 17 and 16, respectively.

As per claim 36, Dole discloses computer-readable storage medium having stored thereon instructions for activities comprising controlling a industrial process by execution of an industrial automation program code developed via a markup language version of the industrial automation computer program (e.g. col. 16, lines 10-47; Fig. 13), but Dole fails to teach causing said control by way of a programmable logic controller via execution of said industrial automation computer program. However, the limitation as to this automation program adapted for an application such to control in a programmable logic controller (PLC) has been treated as obvious in view of the rationale as set forth in claim 1.

As per claim 37, see claim 7.

As per claim 38, Dole implicitly discloses coupling to remote computer system (e.g. Fig. 5).

As per claim 39, Dole discloses a computer program product for permitting a user to create industrial automation computer programs (e.g. col. 8, lines 22-32), the product comprising a computer-readable storage medium having a computer program code on it, the code comprising:

industrial automation graphical programming language code, an editor adapted to permit the user to create industrial automation computer program using graphical elements (e.g. *synthesis tool, behavioral model, schematic* - col. 12, lines 5-48; *DAG* - col. 16, lines 52-55; col. 17, lines 22-27; Fig. 23; step 405-407 – Fig. 9; col. 12, lines 42-55; see *electronic design automation tools* – Abstract),

the industrial automation graphical program being stored in an internal representation during execution (*files and libraries* - col. 7, lines 14-49; *Verilog file* – col. 8, lines 25-32; col. 8, line 63 to col. 9, line 19; col. 10, lines 32-56; col. 13, line 43 to col. 14, line 15; *netlist* – col. 14, lines 42-47; step *503* – Fig. 8; Fig. 11-12; *job steps, chain job* – col. 16, lines 5-9; col. 16, lines 53-55); and

program code for converting the industrial automation computer program thus stored in the internal representation to a markup language version of the industrial automation computer program (e.g. HTML, CGI - col. 7, lines 26-42; Fig 10; *more desirable to use XML* -col. 16, lines 10-47; Fig. 13).

Dole does not explicitly disclose that the industrial automation program is to control a programmable logic controller (PLC). But this limitation has been addressed in claim 1.

As per claim 40, Dole discloses converting industrial automation computer program from the markup language format to the internal representation (see rejection of claim 4).

As per claim 41, Dole discloses a method for communicating the logical structure of software industrial automation control data in order to permit a plurality of application developers to create applications relating to the data, the method comprising:

creating a schema defining a content model for markup language version of an industrial automation computer program system (e.g. col. 7, lines 26-42; DTD – col. 16, lines 10-20; Fig. 13; col. 16, line 65 to col. 17, line 2; *electronic design automation tools* – Abstract) converted from a graphical language version of the industrial automation computer program (*synthesis tool, behavioral model, schematic* - col. 12, lines 5-48; *DAG* - col. 16, lines 52-55; col. 17, lines 22-27; Fig. 23; step 405-407 – Fig. 9; col. 12, lines 42-55); and

posting model content for access over the network by the application developers (e.g. Fig. 5; Fig. 13; DTD – col. 16, lines 10-20).

Dole does not teach the model and web script (Fig. 5) being posted is markup schema or representation; but this markup representation is disclosed as being preferable than CGI or Web script (e.g. *in this embodiment ... XML files are used ... captured design ... into a single file having XML* - col. 16, lines 40-67) has been addressed in claim 1; hence one would be motivated to implement the posting above with posting of markup schema since this would have been obvious using Dole's reason that XML markup would be preferable for capturing design.

Dole does not explicitly disclose that the industrial automation control program is to control a programmable logic controller (PLC); nor does Dole explicitly teach said PLC to control said industrial process via said industrial automation control program. However, this limitation has been addressed in claim 1.

As per claims 42 and 43, refer to claim 7-8, respectively.

As per claim 51, Dole discloses a method for industrial automation control applications, comprising:

providing a computer system coupled to a network (e.g. Fig. 5);

configuring a first computer to receive over the network transmissions of data from a plurality of industrial automation developer systems (Fig. 3-5); and

receiving data from a the plurality of industrial automation computer program developer systems, the data comprising an industrial automation computer program in a markup language version (e.g. col. 16, line 21-67; step *527* – Fig. 13; Fig. 17-23; *electronic design automation tools* – Abstract), the markup language version of the computer program converted from a representation created using a graphical programming language (e.g. col. 7, lines 26-42; DTD – col. 16, lines 10-20 – Note: using browser technologies to create CGI-script or XML DTD file reads on using graphical programming language),

a set of markup language tags associated with the markup language version of the industrial automation computer program defined for the graphical programming language, the set of markup language tags one of a plurality of sets of markup language tags, each set of markup language tags of the plurality of sets of markup language tags defined for a corresponding graphical language of a plurality of graphical languages used in industrial automation (e.g. col. 7, lines 26-42; DTD – col. 16, lines 10-20; Fig. 13; col. 16, line 65 to col. 17, line 2-- Note: the whole and undecipherable limitation is treated as though the plurality of tags would each represent a graphical language of some type, e.g. one among more graphical types/ languages).

Dole does not explicitly disclose method for causing a programmable logic controller to control in industrial process, such that the industrial automation program is to control a programmable logic controller (PLC). But this limitation has been addressed in claim 1.

As per claim 52, see claim 7.

As per claim 53, Dole discloses a method for an industrial automation computer program created via a plurality of industrial automation program developer systems (Fig. 3-5), the industrial automation program presented in a markup language version, the markup language version of the computer program converted from a representation created using a graphical programming language (e.g. col. 7, lines 26-42; DTD – col. 16, lines 10-20 – Note: using browser technologies to create CGI-script or XML DTD file reads on using graphical programming language),

a set of markup language tags associated with the markup language version of the industrial automation computer program defined for the graphical programming language, the set of markup language tags one of a plurality of sets of markup language tags, each set of markup language tags of the plurality of sets of markup language tags defined for a corresponding graphical language of a plurality of graphical languages used in industrial automation (e.g. col. 7, lines 26-42; DTD – col. 16, lines 10-20; Fig. 13; col. 16, line 65 to col. 17, line 2-- Note: the whole and undecipherable limitation is treated as though the plurality of tags would each represent a graphical language of some type, e.g. one among more graphical types/ languages).

Dole does not explicitly disclose method for causing a programmable logic controller to control in industrial process, such that the industrial automation program is to control a programmable logic controller (PLC). But this limitation has been addressed in claim 1.

11. Claims 44 –50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dole, USPN: 6,634,008, in view of the APA, and further in view of Darkinski et al, USPN: 7,089,530(hereinafter Darkinski)

As per claim 44, Dole discloses a method for providing software industrial automation computer program from a system of developers coupled in a network (Fig. 5, 13), the system comprising:

accessing a markup language version of the industrial automation computer program (e.g. Fig. 10; col. 16, line 21-67), the markup language version of the computer program converted from a representation created using a graphical programming language (e.g. HTML, CGI - col. 7, lines 26-42; Fig 10; *more desirable to use XML* -col. 16, lines 10-47; Fig. 13 – Note: using browser technologies to createCGI-script or XML DTD file reads on using graphical programming language);

transmitting the markup language version of the industrial automation computer program over the network in connection of a client system address, thereby causing the markup-version of the industrial automation computer program to be received by the receiving system (e.g. Fig. 5, Fig. 13, 17-23).

Dole does not explicitly disclose a binary Common Object Model representation converted to obtain the markup language version. It was known concept that modeling in a browser-based network for communicating or exchanging streamed data like that of Microsoft Explorer (e.g. IE5) as suggested by APA (Specifications: BACKGROUND, pg. 1, bottom, pg. 2, top) utilizes Microsoft well-known tool such as 'COMMON OBJECT MODEL'; according to which, modeling using COM object is evidenced in Dardinski's method of distribution of automation/industrial control program (e.g. Dardinski: Fig. 1-2, 9) and parametric configuration therefor via marking up of parameters via tagging (see Fig. 102-104). Analogous to Dole using model to provide program control using browser technology and tagging of parameters, Dardinski teaches ladder logic modeling via a editing tool based on COM object architecture (e.g. sec 1.5.1 → 1.6.1.2, col. 40-45; *ladder logic* – sec 2.4.1, col. 94). It would have been obvious for one skill in the art at the time the invention was made to provide the XML-based data exchange in Dole's approach so that Dole's modeling would be implemented using Microsoft's COM architecture to model a process control configuration as taught by Dardinski in order to convert this COM specifications as XML representation for transmission or distribution as taught by Dole and in view of known practices in Microsoft-based browser technologies. One would be motivated to do so because the use of Microsoft COM representation (or binary COM reformatted representation) and COM's wealth of capabilities -- including exploiting object-oriented interfaces (e.g. MFC classes) and modeling/versioning (see Dardinski: Fig. 7-29; Fig. 32-35; col. 40, sec 1.5.1)-- would enable IE explorer-based methodologies like XML-based streaming to take advantages of available existing utilities for representing request and exchanging the COM transformed representation thereof (as taught by Dardinski) within the elements of the network for which Microsoft is supporting.

Nor does Dole explicitly teach that the industrial automation program is to control a programmable logic controller (PLC). But this limitation has been addressed in claim 1.

As per claim 45, Dole discloses client transmitting to the server data relating to the markup language version of the automation computer program, wherein the server has access to the modified industrial automation computer program in response thereto, the modified industrial automation computer program is provided in the markup language version (e.g. Fig. 5-6; col. 15, line 58 to col. 16, line 4), and further comprising: transmitting the markup version modified industrial automation computer program to the client system address to be received by the client (Fig. 5; Fig. 10 – Note: Fig. 10, steps 1115, 1117 versions to select and posted to developers reads on modified industrial automation computer program or methodologies version transmitted in markup language).

As per claim 46, Dole discloses modeling to support a business application programming scheme using a modeling tool (re claim 44) but fails to disclose using electronic mail message to transmit the markup version. It was well-known practice that in an enterprise wherein multiple users are connected via the enterprise network services such that network communication and data distribution help fulfill the enterprise business applications, the use electronic mail to communicate data or update information, and accordingly this Dole also teaches sending of design data files (*e-mailed* - col. 23, lines 59-65). The providing of electronic mail to Dole's system so as to enable multiple developers to communicate with the common framework to retrieve markup-formatted control data (i.e. transmitting of XML schema to other design developer via attachment to mail) would have been obvious in light of the benefits related to such type of communications as suggested by Dole providing of attachments in Email from above.

As per claims 47 and 48, see Dole (e.g. col. 16, line 21-67; Fig. 5, 13).

As per claim 49, this claim includes a variation of claim 44, such variation considered evident in that a client can be a first or a second client in Dole's HTML communication protocol and service rendered to requesting developers, and is rejected using the rationale set forth in claim 44 to address the transmitting of control data based on the network address of the first client system, because in view of the server/client paradigm (Dole: Fig. 3-5), the markup language version in received by a first client and possibly a second client.

As per claim 50, this claim includes the same limitation of claim 4 or 40; and is rejected with the rationale used in claim 4 or 40 in conjunction with the rejection as set forth in claim 49; because in a network where markup data is distributed, rendering such data back into internal representation by a first, a second or a third client would be the same.

12. Claims 9, 13, 27, 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dole, USPN: 6,634,008, and APA, and further in view of Webb et al., 'Programming Logic Controllers' *Principles and Applications*, Prentice-Hall, 1995, chp. 3, pp. 41-54 (hereinafter Webb)

As per claim 9, Dole does not teach graphical programming language comprising a ladder logic, but as evidenced by APA in enabling graphically programming a control of PLC, programming and modeling functionality of a ladder logic would have been as known a concept to designing a PLC, and this is evidenced by Webb (chp. 3). Therefore it would have been obvious for one skill in the art to enable the PLC program developing and graphical modeling based on the programming capabilities by Dole and APA (as set forth in claim 1) such that it utilizes programming of a PLC via a ladder logic program as taught by Webb because a ladder logic diagram and set up based on such graphical programming enable to detect improper flaws at each of controlling steps of a PLC (see Webb: ch. 3-4, 3-5, 3-6), when the steps are programmed to test and develop the very functionality of the PLC as set forth by APA.

As per claim 13, this claim incorporates the rejection of claim 7; and would also include the rationale to the 'ladder logic' limitation obvious in view of the rejection of claim 9.

As per claims 27 and 31, these claims correspond to claims 9 and 13 respectively, hence are rejected using the same rationale as set forth therein, respectively.

Response to Arguments

13. Applicant's arguments filed 11/01/07 have been fully considered but they are not persuasive. Following are the Examiner's observations thereto.

Declaration under 37 § 1.132:

(A) The declaration has submitted for claims 51, 52, that one skilled in the art, referring to paragraphs 27, 34, Fig. 1 and 2; para 22-23 of USPubN: 20020004804 would find that the USC § 112 rejection regarding claim 36 to be incorrect, because he would be reasonably apprised of the scope of the subject matter as precise as those claims permit (Affidavit pg. 5). It is noted here that 'one skilled in the art' as proffered above, would encompass the declarer in the Affidavit, Mr Muenzel, the very Applicant's name; and this is rendering the credibility of such 'one skilled in the art' somewhat weakened; i.e. the impartiality of the expert opinion in the affidavit heavily in doubt, if no other factual evidences were provided to dissuade otherwise. The above pointed to paragraphs (e.g. para 27, 34) describe tag language and markup specifications as well-known in the art; and Figs.1-2 do not appear to solve the indefiniteness issue raised concerning the juxtaposition of incorrelated elements as phrased in the claim language (claim 51, or 53). That is, the above argument appears to ignore the very specifics raised by the rejection, in order to leap to a rather precipitated and subjective conclusion that this 'one skilled in the art'(i.e. Mr Muenzel) would largely be able to construe (and clearly understand) the limitations such as recited. Based on the evidence (para 27, 34, 22-23 in USPubN: 20020004804) provided above which amounts to some generic teaching **largely unconnected** to the very points raised against indefiniteness of the claim language, the argument has been deemed insufficient to overcome the rejection.

(B) The declaration has submitted that Dole is directed toward designing integrated Circuits (Affidavit pg. 6, top). Whether Dole problem is relevant to the subject of industrial automation, the Office Action has provided grounds as to establish why such environment and testing by Dole would be reasonable fit or analogized to implementing control of industrial automation processes. The above opinion by the expert has not been supported by further evidences as required for an affidavit of this type (see MPEP § 716.01a-d); and amounts to uncorroborated legal conclusion with little probative or significant effect.

(C) The declaration has submitted that one skilled in the art would not have found that the portions by Dole being referenced in the rejection to be factually correct (Affidavit, pg. 8 top). This conclusion amounts to a assertion with no probative weight for lack of conclusive evidence as to why the above portions are not the subject matter being claimed (claims 1, 19, 36, 39, 41, 44, 51)

(D) The declaration has submitted that one skilled in the art would not have found that Dole's col. 7, and the markup language cited in the Office Action amounts to any teaching regarding 'markup language version' of an 'industrial automation computer program' (Affidavit, pg. 8, bottom). The 'expert opinion' (construed as a non-objective opinion – by virtue of the name of Applicant and name of declarer **being same**) again amounts to a legal conclusion without explanation for corroborating such with facts attesting why the conclusion would hold. The rejection has shown clearly why markup language format is utilized in Dole as a preferred format; and industrial automation has been analogized to methodological tools implemented by hardware and software cooperative combination by Dole in order to control the automation for developing of a industrial product (see Dole: electronic design automation tools – Abstract).

(E) The declaration has submitted that Fig. 10 and col. 16 by Dole as cited would be seen as mapping the markup language of the claim; but one skilled in the art would not have found that such portion applies to 'markup language version' (Affidavit , pg. 11). This legal conclusion or expert subjective opinion is perceived as not being accompanied by evidences required in order for a declaration of this type to overcome a obviousness rejection (see MPEP § 716.01a-d; § 716.02a)

(F) The declaration has submitted that Fig. 3 and col. 16 by Dole as cited would be seen as mapping the markup language of the claim; but one skilled in the art would not have found that such portion applies to 'markup language version' (Affidavit , pg. 11). This legal conclusion or expert subjective opinion is perceived as not being accompanied by evidences required in order for a declaration of this type to overcome a obviousness rejection (see MPEP § 716.01a-d; § 716.02a)

Response against Applicants Remarks:

Indefiniteness Rejection:

(G) Applicant has submitted that the Declaration under 37 § 1.132 as per Georg Muenzel, provides evidence that one of ordinary skill would be apprised of the subject matter of claims 36-38, 51-52 (Appl. Rmrks pg. 16-17). The USC § 112, 2nd rejection has now in part been readjusted, rendering part of the above observation moot. Regarding the argument against claims 51, 52, the Affidavit analysis regarding how the subject matter as rejected therein would be understood by one skilled in the art, it is deemed that one skilled in the art here amounts to expert opinion coming from the name of Muenzel Georg, the Application inventor himself. Non-objectiveness of such Affidavit is deemed highly questionable in order to impose some weight in persuading the Office Action otherwise; because according to the MPEP 706.01, such expert opinion not only has to be a fact-based persuasive legal conclusion to overcome a 103 Rejection, i.e. non-subjective in itself, but also has to be accompanied by evidences of probative impact; none of which is visible from the Declaration by the same name as the Applicant as set forth above.

(H) Applicant has submitted that Mr Muenzel' s Declaration has provided evidence that Dole's portions do not teach 'converting the internal representation ... automation computer program'; and the Office Action fail to establish prima facie (Appl. Rmrks pg. 26, top half). The weight of the Affidavit has been set forth as insufficient in sections C and D above. Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

(I) Applicant has submitted the limitation recited in claim 5, 17, has not been provided in a prima facie manner with Dole's corresponding teaching (Appl. Rmrks pg. 27). Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

(J) Applicant has submitted that Mr Muenzel's affidavit has provided evidence that Dole's portions do not teach 'converting the internal representation ... automation computer program' of claim 19 (Appl. Rmrks pg 28). This is falling under the ambit of section H, and is referred thereto.

(K) Applicant has submitted that Mr Muenzel's affidavit has provided evidence that the present Office Action (even attempted to be modified or combined) fail to allege that the cited portions by Dole teach the recited limitation of claims 23, 36, 39, 41 (Appl. Rmrks pg 28, 29-31); but the weight of the Affidavit (by Mr Muenzel) along with assertion of patentability by Applicant without provision of facts pointing out how the specifics of Dole cited parts distinguish with the very specific of the claim language has been discussed above (see sections A-J)

(L) Applicant has further submitted, for claim 41, that the cited portions relied upon by the Office action (e.g. Dole: Fig. 5) fail to teach 'posting the schema' for access (Appl. Rmrks pg. 31-32). The argument is not commensurate with the current rationale to render the 'posting of schema' limitation obvious.

(M) Applicant has submitted that Mr Muenzel's affidavit has provided evidence that the present Office Action (even attempted to be modified or combined) fail to establish that the cited portions by Dole teach the recited limitation (e.g. 'schema is XML schema') of claims 42, 44, 46 (Appl. Rmrks pg 32-34). The resort by Applicant to the affidavit will be referred back to sections A-G from above.

(N) As per the Official Notice used in addressing claim 46 as raised by Applicant (Appl. Rmrks pg. 35 top), this has been moot in light of a variation to the previous grounds of rejection.

(O) Applicant has submitted that no evidence provided for the language of claim 51 is undecipherable, and that Dole's cited parts in light of the Affidavit fail to teach claim 51-52 (Appl. Rmrks, pg. 35 to pg. 36). The portion being rejected as hard-to-understand remains unresolved; and the invoking of the Affidavit has been deemed largely non-persuasive because of insufficient objective factual counterpoints, as set forth above.

In all, the claims stand rejected as set forth in the Office Action, including the newly added claim 53.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan A Vu whose telephone number is (571) 272-3735. The examiner can normally be reached on 8AM-4:30PM/Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571)272-3756.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273-3735 (for non-official correspondence - please consult Examiner before using) or 571-273-8300 (for official correspondence) or redirected to customer service at 571-272-3609.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tuan A Vu
Patent Examiner,
Art Unit 2193
January 29, 2008